



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/032,520

10/19/2001

William D. Woodward JR.

A-7158

6877

5642

7590

08/24/2005

SCIENTIFIC-ATLANTA, INC.
INTELLECTUAL PROPERTY DEPARTMENT
5030 SUGARLOAF PARKWAY
LAWRENCEVILLE, GA 30044

EXAMINER

SOL, ANTHONY M

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<p align="center">Office Action Summary</p>	<p>Application No.</p> <p align="center">10/032,520</p>	<p>Applicant(s)</p> <p align="center">WOODWARD ET AL.</p>	
	<p>Examiner</p> <p align="center">Anthony Sol</p>	<p>Art Unit</p> <p align="center">2662</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5 and 30-39 is/are allowed.
- 6) ☒ Claim(s) 6-29 and 40-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau. (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:
 - On page 8, line 3, it is believed that "receivers 218" should state, --receivers 213--.
 - On page 8, line 8, it is believed that "switch 224" should state, --switch 230--.
 - On page 8, line 17, it is believed that "switch 224" should state --switch 230--.
 - On page 10, line 10, it is believed that "DOCSIS complaint systems" should state --DOCSIS compliant systems--.

Appropriate corrections are required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 6, 7, 8-29, 40-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 6,

The phrase "adjusting the reverse channel synchronization message" renders the claim indefinite because it is unclear from the disclosure what is meant by adjusting in regards to reverse channel synchronization message. In what way does it adjust the reverse channel synchronization message?

4. Regarding claim 8,

The phrase "adjusting shared reverse channel timing control information" renders the claim indefinite because it is unclear from the disclosure what is meant by adjusting in regards to shared reverse channel timing control information. In what way does it adjust the shared reverse channel timing control information? Furthermore, it is unclear what is meant by "shared reverse channel timing control information," nor is the phrase clearly described in the specification.

5. Regarding claim 40,

The phrase "adjust the timing control" renders the claim indefinite because it is unclear from the disclosure what is meant by adjust in regards to the timing control. In what way does it adjust the timing control? Furthermore, it is unclear what is meant by "sharing a reverse channel," nor is the phrase clearly described in the specification.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claim 8 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S.

Patent No. 6,690,683 B1 ("Brunhereto").

Brunhereto shows in Figs. 1 and 2 an input, real-time data channel 8 for receiving transport packets, present in a TDM data stream (Col. 3, lines 24-25; receiving a plurality of packet streams, the packet streams containing a plurality of transport packets). Brunhereto further discloses identifying each packet, including an optional associated timestamp information (shared reverse channel timing control information) indicating actual time of arrival (Col. 2, lines 41-44; including shared reverse channel timing control information).

Brunhereto further discloses adjusting the timestamp information of the packet (Col. 6, lines 59-61; adjusting shared reverse channel timing control information).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunheroto in view of admission of Prior Art ("Prior Art").

Regarding claim 9,

Brunheroto discloses a method that covers all the limitations of the parent claim.

Brunheroto does not disclose the steps of integrating the plurality of packet streams into one stream containing the plurality of transport packets and providing the plurality of transport packets to a modulator.

Prior Art discloses that the ASI interface converts the parallel signal into a serial configuration (Pg. 8, lines 14-15; integrating the plurality of packet streams into one stream containing the plurality of transport packets). The Prior Art further discloses that the typical CMTS uses dedicated forward data channel QAM modulators that are connected directly to the MAC functions such that the MAC functions output directly into the QAM modulators (Application, pg. 2, lines 20-22; providing the plurality of transport packets to a modulator).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the steps of interfacing with the modulator as taught by Brunheroto to include the step converting the parallel signal into a serial configuration so that a single stream can be transmitted to the modulator and the step of MAC functions outputting packets into QAM modulators so that the stream can be properly sent to the distribution system as disclosed by the admission of prior art. One skilled in the art would have been motivated to combine Brunheroto with Prior Art

Art Unit: 2662

(collectively "Brunheroto-Prior Art") to generate the claimed invention with a reasonable expectation of success.

10. Regarding claim 10,

Brunheroto-Prior Art discloses a method that covers all the limitations of the parent claim.

Brunheroto-Prior Art discloses that there are various types of interfaces for interconnecting headend equipment carrying MPEG transport data. The most commonly known is the asynchronous serial interface (ASI). The ASI allows equipment with multiple MAC functions to interface to modulator functions with a single data connection (Application, pg. 9, lines 19-21 and pg. 10, lines 4-5; carrying the plurality of transport packets via an asynchronous serial interface).

11. Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunheroto in view of Prior Art, and in further view of Pub. No. US 2002/0024970 A1 ("Amaral").

Regarding claim 11,

Brunheroto-Prior Art discloses a method that covers all the limitations of the parent claim.

Brunheroto-Prior Art does not disclose carrying the plurality of transport packets on a plurality of parallel asynchronous serial interfaces.

Amaral shows in Fig. 2 two parallel DVB ASI interface wherein the data packets from network interface 36 (Fig. 2) are routed to any DVB-ASI interface 28, 30 (Pg. 2, paragraph 25, lines 7-9; carrying the plurality of transport packets on a plurality of parallel asynchronous interfaces).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the interface with a modulator as taught by Brunheroto-Prior Art to include a plurality of parallel ASIs as taught by Amaral so that processing of data packets can be increased verses a single ASI architecture. One skilled in the art would have been motivated to combine Brunheroto-Prior Art with Amaral (collectively "Brunheroto-Prior Art-Amaral") to generate the claimed invention with a reasonable expectation of success.

12. Regarding claim 12,

Brunheroto-Prior Art-Amaral discloses a method that covers all the limitations of the parent claim.

Brunheroto-Prior Art-Amaral discloses that a typical CMTS uses dedicated forward data channel quadrature amplitude modulation (QAM) modulators (Application, pg. 2, lines 20-21; modulator comprises a QAM modulator).

13. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brunheroto in view of Prior Art, in further view of Amaral, and in further view of Pub. No. US 2002/0007491 A1 ("Schiller").

Regarding claim 13,

Brunheroto-Prior Art-Amaral discloses a method that covers all the limitations of the parent claim.

Brunheroto-Prior Art-Amaral does not disclose that the modulator further comprises a multi-QAM modulator.

Schiller shows in Fig. 1A multiple QAM modulators 108-118 (Pg. 3, paragraph 20, lines 8-9).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the interface with a modulator as taught by Brunheroto-Prior Art-Amaral to include multiple QAM modulators as taught by Schiller so that processing of data packets can be increased verses a single QAM architecture. One skilled in the art would have been motivated to combine Brunheroto-Prior Art-Amaral with Schiller (collectively "Brunheroto-Prior Art-Amaral-Schiller") to generate the claimed invention with a reasonable expectation of success.

14. Regarding claim 14,

Brunheroto-Prior Art-Amaral-Schiller discloses a method that covers all the limitations of the parent claim.

Brunheroto-Prior Art-Amaral-Schiller discloses that a DOCSIS forward data channel is implemented in a cable television system such that a DOCSIS signals can use existing modulators intended for MPEG transport (Application, pg. 2, lines 7-8;

Art Unit: 2662

packet streams conforming to the DOCSIS standard; plurality of transport packets conforms to the MPEG protocol). Brunheroto-Prior Art-Amaral-Schiller further discloses that the MPEG header contains a 13 bit number used for identification, known as the packet identification (Application, pg. 2, lines 11-12; plurality of transport packets having a packet identification).

15. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,627,836 B1 ("Conoscenti") in view of Brunheroto.

Conoscenti discloses an ATM network with devices for multiplexing ATM streams that supply cells from one input point to multiple output points (Col. 6, lines 18-22; a multiplexer configured to integrate a plurality of packet streams into one stream containing a plurality of transport packets)

Conoscenti does not disclose a timing control adjuster to adjust the timing control of the shared reverse channel in the plurality of packets.

Brunheroto discloses a system for adjusting the timestamp information of the packet (Col. 6, lines 59-61; timing control adjuster to adjust the timing control of the shared reverse channel in the plurality of packets).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the interface with a modulator that includes a multiplexer as taught by Conoscenti to include a timing control adjuster to reflect proper sequence of packets as taught by Brunheroto. One skilled in the art would have been motivated to combine Conoscenti with Brunheroto (collectively "Conoscenti-

Art Unit: 2662

Brunheroto") to generate the claimed invention with a reasonable expectation of success.

Allowable Subject Matter

16. Claims 15-29 and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

17. Claims 6-7 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

18. Claims 1-5, 30-38 and 39 are allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Sol whose telephone number is (571) 272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

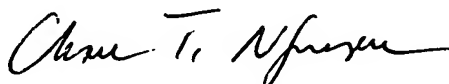
Art Unit: 2662

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AMS

AMS

8/18/2005



CHAU NGUYEN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600